LEXSEE

PHT CORPORATION, Plaintiff, v. INVIVODATA, INC., Defendant. PHT CORPORATION, Plaintiff, v. CRF, INC., Defendant. PHT CORPORATION, Plaintiff, v. ETRIALS WORLDWIDE, INC. Defendant.

Civil Action No. 04-60 GMS, Civil Action No. 04-61 GMS, Civil Action No. 04-821 GMS

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

2005 U.S. Dist. LEXIS 9577

May 19, 2005, Decided

PRIOR HISTORY: PHT Corp. v. Invivodata, Inc., 2005 U.S. Dist. LEXIS 6495 (D. Del., Apr. 15, 2005)

CASE SUMMARY:

PROCEDURAL POSTURE: Plaintiff patentee filed a patent infringement against defendant company. Before the court was the matter of patent claim construction.

OVERVIEW: The patent was directed to a portable health monitoring system. The technology was useful in the field of medicine and health tracking, including assessing trends in health, and the diagnosing and monitoring of medical conditions. Among the claims at issue was claim 22, which was directed to a portable personal health monitor that consisted of four components: a data logger, a time base, a data storage unit, and a data transmission device. With respect to claim 22, the court construed the phrase "data transmission device capable of connecting directly to a communication network" to mean a device that transmitted data and was capable of connecting to a communication network without requiring a separate data processor. In doing so, the court found a disclaimer issue to be arguable as to an external modem, and the court could not say that the applicants used words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope. Inter alia, as to claim 29 the court construed the phrase "digitized representation of the detected writing" as having its plain and ordinary meaning -- specifically digital data that represented the subject's writing.

OUTCOME: The court construed the relevant claim terms.

CORE TERMS: network, digital, portable, specification, data transmission, telephone, construe, subjective, modem, embodiment, patent, patient, connecting, personal health, logger, unified, tracker, comprise, tracking, invention, patentee, input, connectable, direct connection, invivodata, public telephone, data processor, lexicographer, handwriting, digitized

LexisNexis(R) Headnotes

Patent Law > Infringement Actions > Claim Interpretation > Fact & Law Issues
[HN1] Patent claim construction is a task reserved to the court.

Patent Law > Infringement Actions > Claim Interpretation > Aids
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN2] When construing a patent claim term, the court should focus on what one of ordinary skill in the art at the time of the invention would have understood the term to mean. In making its determination, the court must first look to the intrinsic evidence of the record, including the claims of the patent, the written description, and the prosecution history, because it is the most significant source of the legally operative meaning of the disputed claim language.

Patent Law > Infringement Actions > Claim Interpretation > Aids
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN3] The starting point in a patent claim construction analysis is the claims themselves. Generally, there is a heavy presumption that claim terms carry their ordinary meaning as understood by one of ordinary skill in the art.

In this regard, pertinent art dictionaries, encyclopedias and treatises are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art. However, the written description and the prosecution history must be examined in every case to determine whether the presumption of ordinary and customary meaning is rebutted.

Patent Law > Infringement Actions > Claim Interpretation > Aids
Patent Law > Infringement Actions > Claim Interpretation > Means Plus Function
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN12] A patentee may rebut the presumption of ordinary and customary meaning in four ways. First, the patentee, acting as his own lexicographer, may clearly set forth a special definition of a claim term in the patent specification or file history. Second, the patentee may distinguish a term from prior art on the basis of a particular embodiment, by expressly disclaiming subject matter, or by describing a particular embodiment as important to the invention. Third, the patentee may rebut the presumption if he has chosen a term that deprives the claim of clarity as to require the court to resort to the other intrinsic evidence for a definite meaning. Last, if the claim is a step-or means-plus-function claim, it will only cover the corresponding structure or step disclosed in the specification, as well as equivalents thereto.

Patent Law > Infringement Actions > Claim Interpretation > Aids
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN4] If the meaning of a disputed claim term is clear from the intrinsic evidence that meaning, and no other, must prevail. That is, the court may not consider extrinsic evidence, such as expert testimony. A court only may consider extrinsic evidence when the meaning of a claim term remains genuinely ambiguous after examining the intrinsic record.

Patent Law > Claims & Specifications > Claim Language > General Overview
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN5] Patent law permits the patentee to choose to be his or her own lexicographer by clearly setting forth an explicit definition for a claim term that could differ in scope from that which would be afforded by its ordinary meaning. A patentee acts as his own lexicographer when he clearly sets forth an explicit definition for a claim term. That is, when a patentee acts as his own lexicographer, the statement in the specification must have sufficient clarity to put one reasonably skilled in the art on notice that the inventor intended to redefine the claim term.

Patent Law > Infringement Actions > Claim Interpretation > Aids
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN6] Interpretation of a disputed patent claim term requires reference not only to the specification and prosecution history, but also to other claims. The fact that the court must look to other claims using the same term when interpreting a term in an asserted claim mandates that the term be interpreted consistently in all claims.

Patent Law > Infringement Actions > Claim Interpretation > Construction Preferences
[HN7] An interpretation that excludes the preferred embodiment requires highly persuasive evidentiary support.

Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN8] The court will not find a disclaimer unless patent applicants have used words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.

Patent Law > Infringement Actions > Claim Interpretation > Construction Preferences
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN9] While accused patent infringers may rebut the heavy presumption that a claim term carries its ordinary and customary meaning to limit a claim term, they cannot do so simply by pointing to the preferred embodiment.

Patent Law > Claims & Specifications > Claim Language > Elements & Limitations
Patent Law > Infringement Actions > Claim Interpretation > Aids
Patent Law > Infringement Actions > Claim Interpretation > Scope
[HN10] Where a specification does not require a limitation, that limitation should not be read from the specification into the patent claims.

Patent Law > Infringement Actions > Claim Interpretation > Construction Preferences
Patent Law > Infringement Actions > Claim Interpretation > Scope

[HN11] Just as the preferred embodiment itself does not limit patent claim terms, mere inferences drawn from the description of an embodiment of the invention cannot serve to limit claim terms.

COUNSEL:

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For Invivodata Inc., Counter Claimant: David Ellis Moore, Richard L. Horwitz, Potter Anderson & Corroon, LLP, Wilmington, DE; Brian Rosenthal, Cecilia H. Gonzalez, Pro Hac Vice.

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For eTrials Worldwide, Inc., Defendant: Julia Heaney, Morris, Nichols, Arsht & Tunnell, Wilmington, DE.

JUDGES: Gregory M. Sleet, UNITED STATES DISTRICT JUDGE.

OPINIONBY: Gregory M. Sleet

OPINION:

MEMORANDUM

I. INTRODUCTION

On January 28, 2004, PHT Corporation ("PHT") filed separate actions

[*2] for patent infringement against Invivodata, Inc. ("Invivodata") and CRF, Inc. ("CRF"). On July 7, 2004, PHT filed a patent infringement action against eTrials Worldwide, Inc. ("eTrials"). PHT alleges that products manufactured and sold by Invivodata, CRF and eTrials (collectively, the "defendants") infringe U.S. Patent No. 6,095,985 (the "'985 patent"). The '985 patent is directed to a portable health monitoring system. This technology is particularly useful in the field of medicine and health tracking, including assessing trends in health, and the diagnosing and monitoring of medical conditions.

On April 19, 2005, the court held a consolidated *Markman* hearing to assist it in construing the disputed language of the asserted claims. This Memorandum sets forth the court's interpretation of the disputed claim terms.

II. STANDARD OF REVIEW

[HN1] Claim construction is a task reserved to the court. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-78 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 388-90, 134 L. Ed. 2d 577, 116 S. Ct. 1384 (1996); *Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 870 (Fed. Cir. 1998). [HN2] When construing a claim term,

[*3] the court should focus on "what one of ordinary skill in the art at the time of the invention would have understood the term to mean." *Markman*, 52 F.3d at 986. In making its determination, the court must "first look to the intrinsic evidence of the record, including the claims of the patent, the written description, and the prosecution history," because it "is the most significant source of the legally operative meaning of the disputed claim language." *Vitronics Corp. V. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

It is well settled that [HN3] the starting point in a claim construction analysis is the claims themselves. *Id.* Generally, there is a "heavy presumption" that claim terms carry their ordinary meaning as understood by one of ordinary skill in the art. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002); *see Vitronics*, 90 F.3d at 1582. In this regard, pertinent art "dictionaries, encyclopedias and treatises . . . are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those

[*4] of skill in the art." *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202-03 (Fed. Cir. 2002). However, the written description and the prosecution history "'must be examined in every case to determine whether the presumption of ordinary and customary meaning is rebutted.'" *Texas Digital*, 308 F.3d at 1204. [HN12] A patentee may rebut the presumption of ordinary and customary meaning in four ways. *See CCS Fitness*, 288 F.3d at 1366-67. First, the patentee, acting as his own lexicographer, may clearly set forth a special definition of a claim term in the patent specification or file history. *Id.* at 1366. Second, the patentee may distinguish a term from prior art on the basis of a particular embodiment, by expressly disclaiming subject matter, or by describing a particular embodiment as important to the invention. *See id.* at 1367. Third, the patentee may rebut the presumption if he has chosen a term that "'deprive[s] the claim of clarity' as to require

[the court to] resort to the other intrinsic evidence for a definite meaning." *Id.* (quoting *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985 (Fed. Cir. 1999)).

[*5] Last, if the claim is a step-or means-plus-function claim, it will only cover the "corresponding structure or step disclosed in the specification, as well as equivalents thereto." *CCS Fitness*, 288 F.3d at 1367.

[HN4] If the meaning of a disputed claim term is clear from the intrinsic evidence "that meaning, and no other, must prevail." *Key Pharms. v. Hercon Lab. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998); *see Vitronics*, 90 F.3d at 1583. That is, the court may not consider extrinsic evidence, such as expert testimony. A court only may consider extrinsic evidence when the meaning of a claim term remains "genuinely ambiguous" after examining the intrinsic record. *See Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys.*, 132 F.3d 701, 706 (Fed. Cir. 1997). With these standards in mind, the court turns to its analysis of the disputed claim terms of the '985 patent.

III. DISCUSSION

The parties submitted a joint claim chart to the court, setting forth the disputed claims of the patent: independent claim 22, dependent claims 29-30, independent claim 34, and dependent claims 36-40. The court will address each of the

[*6] disputed claims in turn.

A. Claim 22

Claim 22 of the '985 patent is directed to a portable personal health monitor that consists of four components: a data logger, a time base, a data storage unit, and a data transmission device. Claim 22 provides:

A portable personal health tracker comprising:

(a) a data logger that collects and records *subjective data* from a subject regarding the subject's psychological condition and subjectively observed physiological condition;

(b) a time base which tracks a time of recording of the data;

(c) a data storage unit in which the data is stored with reference to the time base such as to provide a chronological health history of the subject; and

(d) *a data transmission device capable of connecting directly to a communication network* to allow transmission of data to a destination site from points of access to the network that are remote to the destination site, *wherein each of the components of the health tracker is part of a single, unified portable unit* that may be used by an ambulatory patient.

The parties dispute the meanings of the emphasized terms or phrases. The court will address each of these terms and phrases in

[*7] turn.

1. Subjective Data

The specification of the '985 patent explains that "the term 'subjective' data will refer to that data which is input by the patient to the data logger, regardless of whether that data pertains to the patient or the patient's environment, and whether or not the information is objective or factual, such as medication dosage or consumption of a particular food." '985 patent, col. 5, 11. 40-45.

Noting that patentees may act as their own lexicographers, see, e.g., *Abbott Labs. v. Novopharm Ltd.*, 323 F.3d 1324, 1330 (Fed. Cir. 2003), Invivodata and CRF ask the court to give the term "subjective data" the meaning expressly provided in the patent specification -- namely, "data which is input by the patient to the data logger, regardless of whether that data pertains to the subject or the subject's environment, and whether or not the information is objective or factual." n1

n1 eTrials believes that it is not necessary to construe the term "subjective data," but does not oppose the construction offered by Invivodata and CRF.

[*8]

PHT agrees that the patentees acted as their own lexicographers with respect to the term "subjective data," noting that the patentees plainly ascribed a meaning other than its ordinary meaning as the specification makes clear. (D.I. 39, at 7.) n2 Despite this agreement, PHT argues that a narrower definition should control. In particular, PHT contends that although the definition of "subjective data" provided in the specification is very broad, claim 22 provides an additional limitation on the type of "subjective data" that can be entered into the data logger. According to PHT, claim 22 requires the subjective data to be data "regarding the subject's psychological condition and subjectively observed physiological condition." (*Id.* at 8.) Thus, "subjective data," as used in the '985 patent, means "data input by the patient." (*Id.* at 7.) The court disagrees.

n2 PHT and the defendants have filed the same claim construction briefs in each of the three above-captioned cases. For convenience, the court

will cite to the 04-60 case docket.

[*9]

[HN5] "Patent law permits the patentee to choose to be his or her own lexicographer by clearly setting forth an explicit definition for a claim term that could differ in scope from that which would be afforded by its ordinary meaning." *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001). A patentee acts as his own lexicographer when he "clearly set[s] forth an explicit definition for a claim term." *Johnson Worldwide Assocs. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999). That is, when a patentee acts as his own lexicographer, the statement in the specification must have sufficient clarity "to put one reasonably skilled in the art on notice that the inventor intended to redefine the claim term." *Bell Atl. Network Servs., Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001).

In the present case, PHT acted as its own lexicographer in clearly setting forth the meaning of the term "subjective data." PHT agrees, but then asks the court to limit the definition of "subjective data" based on the remaining claim language. n3 PHT misses the mark. While the scope of the "subjective data" covered in

[*10] claim 22 may be limited by the other language in the claim, that is an issue the court need not determine to construe this term. The only issue before the court is the meaning of the term "subjective data" and, as previously stated, PHT acted as its own lexicographer. Accordingly, the court will construe the term "subjective data" to mean "data which is input by the patient to the data logger, regardless of whether that data pertains to the patient or the patient's environment, and whether or not the information is objective or factual, such as medication dosage or consumption of a particular food." n4

n3 The court finds this proposition interesting, especially in light of the fact that PHT maintains that Invivodata and CRF "attempt improperly to read a limitation from the specification into the claim." (D.I. 39, at 8.) According to PHT, the definition of "subjective data" in the specification is "very broad." (*Id.*) This is the very definition that Invivodata and CRF propose. Thus, the court does not understand how Invivodata and CRF are attempting to improperly read a limitation from the specification into the claim.

[*11]

n4 Further support for the court's interpretation lies in claim 14, which also contains the term "subjective data." PHT contends that "subjective data" as used in claim 14 does not include a limit on the type of subjective data that can be collected from the subject. (D.I. 39, at 8.) PHT's argument fails, however, because [HN6] "interpretation of a disputed claim term requires reference not only to the specification and prosecution history, but also to other claims. The fact that [the court] must look to other claims using the same term when interpreting a term in an asserted claim mandates that the term be interpreted consistently in all claims." *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1579 (Fed. Cir. 1995). Accepting PHT's argument would require the court to interpret "subjective data" differently in claim 22 than in claim 14, and would be contrary to law.

2. Data Transmission Device Capable of Connecting Directly to a Communication Network

The parties dispute the construction of the phrase "capable of connecting directly." The defendants contend that this term

[*12] should be construed so that "connecting directly" means that the data transmission device "can be connected to a communication network without requiring a separate unit (such as a computer or modem) between the data transmission device and the network." The defendants further contend that PHT's proposed construction is "overly broad and impermissibly recaptures claim scope that was disclaimed during prosecution in order to obtain allowance of the claims." (D.I. 40, at 17); *see Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc.*, 214 F.3d 1302, 1308 (Fed. Cir. 2000).

In response, PHT asserts that the phrase should be construed so that "capable of connecting directly" means that the data transmission device "is capable of transmitting data from the data logger to a communication network site without the data being processed by or accessed on an intervening computer." According to PHT, Claim 22 only excludes an intervening computer. It does not exclude the possibility a device located between the data logger and communications network, such as an external modem. (D.I. 45, at 4 n.6.) PHT argues that its construction is supported by the specification and prosecution

[*13] history of the patent, noting that the preferred embodiment expressly includes an external modem. (D.I. 39, at 10-11.) PHT further argues if the court adopts the defendants proposed construction then claim 22 would not cover the preferred embodiment, and "[a] claim interpretation that excludes a preferred embodiment from the scope of the claim 'is rarely, if ever, correct.'" *Id.*

(quoting *Globetrotter Software, Inc. v. Elan Computer Group, Inc.*, 362 F.3d 1367, 1381 (Fed. Cir. 2004)).

PHT correctly states the law of the Federal Circuit. Indeed, [HN7] an interpretation that excludes the preferred embodiment "require[s] highly persuasive evidentiary support." *Elekta*, 214 F.3d at 1308. The defendants, however, contend that this *is* the "rare case" in which the evidence shows that the asserted claims do not cover the preferred embodiment. *See* Transcript of *Markman* hearing, dated April 19, 2005 ("Tr."), at 23-24; *Elekta*, 214 F.3d at 1308. According to the defendants, PHT disclaimed coverage of the preferred embodiment with unambiguous claim amendments and prosecution history statements, pointing out that "arguments made during
[*14] prosecution regarding the meaning of a claim term are relevant to the interpretation of that term in every claim of the patent absent a clear indication to the contrary." *Southwall Techs., Inc.*, 54 F.3d at 1579.

Here, the examiner rejected certain claims during prosecution as being obvious in light of U.S. Patent No. 5,128,552 (the "Fang patent"). In response, the applicants cancelled some of the original claims, amended claims, and distinguished the Fang patent. Specifically, the applicants amended claim 22, adding the "data transmission device capable of connecting directly to a communication network" limitation. The applicants also asserted that their invention was different from the Fang patent. The defendants argue that the applicants' asserted distinctions compel the court to adopt their proposed construction. The court disagrees.

After reading the prosecution history, the court is not convinced that the applicants "disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1204 (Fed. Cir. 2002)
[*15] (citing *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002)). For example, the applicants told the patent examiner that "[a] particularly useful feature [in regard to portability] is the construction of the monitor to allow direct access to a communications network without requiring connection via a separate unit, such as a personal computer." (D.I. 42 Ex. C at 11.) While the court could consider this statement as a possible disclaimer of an external modem, the applicants further explained the difference between their invention and the Fang patent, stating:

> Fang provides no suggestion of a handheld unit, and certainly does not suggest the use of a data transmission device with a handheld unit that allows direct connection from the unit to a communication network. *Without such direct connection capability, a user would have to download the data to a separate processor before it could be transmitted to a remote destination site. This would require the user to carry, in addition to the monitor itself, a portable computer (or other portable processing unit), or to simply wait until he or she reaches a place where a computer*
> [*16] *with a modem (not to mention the appropriate software) is available.*

(*Id.* at 12) n5 (emphasis added). The emphasized language from the prosecution history describes direct connection capability in relation to downloading data to a separate processor. That is, the applicants told the patent examiner that without the direct connection capability of their invention a user would have to carry a portable computer. Thus, the applicants used the direct connection capability to distinguish their invention over the Fang patent, because the Fang patent teaches a personal health monitor that includes a programmable computer, or laptop computer, while the '985 patent teaches a personal health monitor that is "truly ambulatory" and does not require the data to be downloaded to a separate processor. (*Id.* at 11.) At most, the court finds that the disclaimer issue is arguable. As such, the court cannot say that the applicants "used words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Texas Digital*, 308 F.3d at 1204. Accordingly, the court will construe the phrase "capable of connecting
[*17] directly" to mean "capable of connecting without requiring a separate data processor." The court, therefore, construes the phrase "data transmission device capable of connecting directly to a communication network" to mean "a device that transmits data and is capable of connecting to a communication network without requiring a separate data processor."

> n5 The applicants made these comments with respect to claim 1. However, as noted by the defendants and the applicants, claim 22 is similar to claim 1 in that it contains the "capable of connecting directly" limitation. (D.I. 40, at 18 n.6.)

3. Wherein Each of the Components of the Health Tracker is Part of a Single, Unified Portable Unit

The defendants propose that the court construe the phrase "wherein each of the components of the health tracker is part of a single unified portable unit" to mean "the data logger, time base, data storage unit and data transmission device are all included within a single,

unified portable unit." The defendants contend that they [*18] have construed the phrase in accordance with its plain and ordinary meaning because "for the components of the health tracker to be 'part of' a single unit, they must be physically included within the unit." (D.I. 40, at 20.) The defendants further contend that during prosecution the patent applicants excluded from claim 22 devices using a component that is not physically included within the unit, such as an external modem. (*Id.*) According to the defendants, the applicants added the claim limitation at issue "as a key distinguishing feature over the prior art." (*Id.* at 21.)

PHT proposes that the court construe the phrase to mean "wherein the health tracker's components are combined into a unit which is capable of being carried by a patient." PHT asserts that, as with the "capable of connecting directly" limitation, the defendants' construction seeks to exclude the preferred embodiment of the invention, or an external modem combined with a telecommunications driver. (D.I. 39, at 13.) PHT further asserts a health tracker combined with an external modem is a single, unified, portable unit that is capable of being carried by a patient. (*Id.*)

The parties do not disagree that [*19] the data logger, time base, data storage unit, and data transmission device are the components of the health tracker. Thus, the court need not construe the phrase "wherein each of the components of the health tracker." The parties' dispute concerns whether the phrase "part of a single, unified portable unit" means that the components must be "included" within a single, unified portable unit or that the components can be "combined" into a single, unified portable unit. As previously stated, the defendants' maintain that a construction in which all of the components are "physically included" within the unit is compelled, relying on the "part of a single unit" language of the phrase. (D.I. 40, at 20.) The court disagrees, based on the plain and ordinary meaning of the term "unified." The plain and ordinary meaning of the term "unified" is "made into a coherent group or whole." Webster's Third New International Dictionary 2499 (1993). The meaning of "unified" is broad, in that a component not physically included within the unit can be combined with components that are physically included within the unit to form "a coherent group or whole." The '985 patent specification also supports a [*20] broad construction. For example, in the preferred embodiment of the invention "the monitor connects directly to a modem (when used without a data logger), or can be connected to a serial data port on the subjective data logger which, in turn, connects to a modem. In the preferred embodiment an external modem is used. . . . " (Col. 5, 11. 4-9.)

The defendants also contend that the prosecution history compels the court to construe the phrase so that the data transmission device "is included within the portable unit." (D.I. 40, at 21.) The defendants maintain that the applicants disclaimed a data transmission device that is not within the portable unit when they described the handheld unit as being "'a single, unified handheld unit that includes an on-board communication device, such as a modem.'" (*Id.* at 20.) The court is not persuaded. As previously discussed, [HN8] the court will not find a disclaimer unless the applicants have "used words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Texas Digital*, 308 F.3d at 1204. The court cannot agree that the word "includes," in the statement that the defendants cite, represents [*21] a clear disavowal of the applicants' preferred embodiment.

Lastly, the plain and ordinary meaning of "portable" is "capable of being carried." Webster's Third New International Dictionary 1768. The court, therefore, will construe the phrase "wherein each of the components of the health tracker is part of a single, unified portable unit" as "wherein each of the components of the health tracker is a part of a coherent group or whole that is capable of being carried."

B. Claim 29

Claim 29 is dependent on claim 22 and reads as follows:

> A portable personal health tracker according to claim 22 further comprising a tactile input device on which the subject may write and the subject's writing is detected, said tactile input device generating a *digitized representation of the detected writing.*

The parties dispute the meaning of "digitized representation of the detected writing." The defendants contend that this term should be limited to a subject's handwriting, and proposes that the term be construed as "digital data that represents the subject's handwriting." (D.I. 41, at 30-31.) According to the defendants, the specification supports their construction because it [*22] differentiates between any input on a touch-sensitive screen by a pen and handwriting. Additionally, the specification "makes clear that 'writing' refers not to any record of tactile input by a subject, but instead specifically to the subject's handwriting." (*Id.* at 32.)

Conversely, PHT requests the court to adopt a broad construction of the term. PHT proposes that the term means "a digital record of a pattern created on a tactile input device of the health tracker." (D.I. 39, at 14.) PHT

asserts that the defendants' proposed limitation is not justified by the specification or the prosecution history. The court agrees. However, the court also concludes that PHT's proposed construction is too broad.

The patent specification describes the writing as follows:

> Shown in FIG. 20A is a message screen of the subjective data logger in which a space is provided where the patient may write a message to a person who reviews his or her database records, such as a reviewing physician. In the preferred embodiment, the message is transmitted as bit-mapped data, such that . . . when displayed by the recipient, it appears in the handwriting of the patient. Although software is available
> [*23] which could be used to convert the message into characters, the handwriting itself may be of use to a reviewing physician in assessing the patient's medical condition and in establishing the authenticity of the record.

(Col. 26, 11. 44-55.) As previously discussed, there is a "heavy presumption" that a claim term carries its ordinary and customary meaning. CCS Fitness, 288 F.3d at 1366. Here, the ordinary meaning of the term "writing" is broad: "letters or characters formed on a surface that serve as visible signs of ideas, words or symbols." Webster's Third New International Dictionary 2641 (1993). [HN9] While accused infringers may rebut the "heavy presumption" to limit a claim term, they "cannot do so simply by pointing to the preferred embodiment." CCS Fitness, 288 F.3d at 1366. Moreover, [HN10] "where a specification does not require a limitation, that limitation should not be read from the specification into the claims." *Intel Corp. v. United States Int'l Trade Comm'n*, 946 F.2d 821, 836 (Fed Cir. 1991) (citation omitted). In addition, [HN11] "just as the preferred embodiment itself does not limit claim terms, . . . mere inferences drawn
[*24] from the description of an embodiment of the invention cannot serve to limit claim terms." *Johnson Worldwide*, 175 F.3d at 992.

Here, the defendants merely point to the preferred embodiment and state that nothing in the claim suggests that it covers anything but handwriting. However, neither the claim nor the specification require that the term "writing" be limited to "handwriting." Indeed, the specification explains that software is available that can convert the message into characters. (Col. 26, 11. 51-52.) Thus, the patent postulates that a "digitized representation of the detected writing" can include more than just a subject's handwriting. Accordingly, the court will construe the phrase "digitized representation of the detected writing" as having its plain and ordinary meaning -- specifically "digital data that represents the subject's writing." n6

> n6 The phrase "digitized representation of the subject's writing" in claim 30 should be construed consistently with the term "digitized representation of the detected writing" in claim 29. *See Southwall Techs.*, 54 F.3d at 1579. Thus, for the reasons stated above, the court construes the term "digitized representation of the subject's writing" to mean "digital data the represents the subject's writing."

[*25]

C. Claim 34

Claim 34 is directed to a personal health tracking system and provides:

> A personal health tracking system comprising:
>
> (a) a portable unit having a data logger that collects and records *subjective data* n7 from a subject regarding the subject's psychological condition and subjectively observed physiological condition;
>
> (b) a time base of the portable unit which tracks a time of recording of the data;
>
> (C) a data storage location remote from the portable unit in which the data is stored with reference to the time base such as to provide a chronological history of the subject's psychological condition; and
>
> (d) a *data transmission device of the portable unit* that transmits data to the data storage location via a *digital data network.*

The parties dispute the meaning of the emphasized phrases. The court will address each phrase in turn.

> n7 The term "subjective data" in this claim should be construed consistently with the term "subjective data" in claim 22. Accordingly, for the reasons stated in Section III.A.1., *supra,* the court construes "subjective data" to mean "data which is input by the patient to the data logger, regardless of whether that data pertains to the patient or the patient's environment, and whether or not the information is objective or factual, such as medication dosage or consumption of a particular food."

[*26]

1. Data Transmission Device of the Portable Unit

PHT, Invivodata, and CRF's proposed constructions for this phrase are similar to their proposed constructions for the phrase "data transmission device capable of connecting directly" in claim 22. eTrials proposes that the court construe the phrase to mean "a device that transmits data and is included within the portable unit." n8 Invivodata and CRF have also proposed a construction that is consistent with their proposed construction of the term "part of a single, unified portable unit."

> n8 eTrials' proposed construction does not include a direct connection between the data transmission device and the network for two reasons: (a) claim 34 does not explicitly cite the "direct connection" requirement; and (b) when the patent applicants compared claim 34 to claim 1 (which contains similar language to claim 22), they told the patent examiner that the data transmission devices of the two claims are different. (D.I. 40, at 27 n.11.) eTrials, however, states that "to the extent the court is inclined to construe claims 22 and 34 to require a direct connection, Etrials believes that the construction urged by invivodata and CRF should be adopted." (*Id.*)

[*27]

The court has already construed the phrase "data transmission device" and the phrase "part of a single, unified portable unit." As previously stated, the court should construe claim terms consistently. *See Southwall Techs., 54 F.3d at 1579*. The court, therefore, will construe the term "data transmission device" consistent with its construction of that term in claim 22 to mean "a device that transmits data." The court will not construe the term "data transmission device" as used in claim 34 to include a direct connection, as claim 34 does not include the "direct connection" requirement. In addition, the court will construe the term "of the portable unit" consistent with the phrase "part of a single, unified portable unit" in claim 22 to mean "part of a coherent group or whole that is capable of being carried." Thus, the court will construe "data transmission device of the portable unit" to mean "a device that transmits data and is part of a coherent group or whole that is capable of being carried."

2. Digital Data Network

The parties' dispute over the term "digital data network" centers on whether the term, as used in the claims of the '985 patent includes or excludes

[*28] a telephone network. Noting that "where claims use different terms, those differences are presumed to reflect a difference in the scope of the claims," see *Forest Labs. v. Abbott Labs., 239 F.3d 1305, 1310 (Fed. Cir. 2001)*, the defendants contend that under the principles of claim differentiation the claims make clear that a digital network and a telephone network are two different things. (D.I. 40, at 28.) The defendants point to three different claims to support their claim differentiation argument: (1) unasserted dependent claim 46; (2) unasserted dependent claim 47; and (3) claim 1. Claims 46 and 47 depend from claim 43, which is directed to a personal health tracking system that includes a "communication network" limitation. The communication network of claim 46 comprises a "public telephone network," while the communication network of claim 47 comprises a "digital data network." n9 The defendants maintain that because the dependent claims comprise different "communication networks," the patent uses the term "digital data network" to mean something other than a telephone network. (*Id.*) With respect to claim 1, the defendants contend that the applicants argued

[*29] patentability to the patent examiner by stating that claim 34 is limited to a "digital data network," whereas claim 1 recites a broader "communication network." According to the defendants, if the court accepted PHT's construction then the "digital data network" of claim 34 would be superfluous -- that is, the "digital data network" would be the same as the "communication network" recited in claims 1 and 22. (04-821 D.I. 42, at 12-13.)

> n9 Claim 46 reads:
>
> > A personal health tracking system according to claim 43 wherein the communication network comprises a public telephone network and the portable unit comprises a modem that is directly connectable to the telephone network.
>
> Claim 47 reads:
>
> > A personal health tracking system according to claim 43 wherein the communication network comprises a digital data network and the portable unit is connectable directly to the data network a local data network access connection.

The defendants further contend that their proposed construction is supported

[*30] by the specification because the specification "expressly distinguishes between a telephone network and the 'alternative,' a data network." (*Id.* at 12.) The defendants reason that if a data network, as used in the '985 patent, included a telephone network, "there would be no need for the applicants to describe the use of a

'combination of a telephone network and a data network,'" as is recited in the specification.

PHT asserts that its construction is correct because the patent describes transmitting information from the health tracker to a central database using various types of networks. (D.I. 39, at 18.) In addition, PHT asserts that a telephone network "can be a data network," providing two examples: (1) telephone communications carried over computer networks utilizing a voice over Internet protocol ("VoIP") system, or system that converts standard telephone audio into digital data so it can be sent over a computer network; and (2) digital information transmitted over traditional telephone lines using digital subscriber line ("DSL") technology. (*Id.*) According to PHT, "so long as the network is capable of transmitting digital data, the network is a digital data network,

[*31] even if. . . [it] is also capable of transmitting telephone communications." (*Id.*)

PHT asserts that although "digital data network" and "telephone network" may have different meanings in claims 46 and 47, it does not follow that the terms are mutually exclusive. (D.I. 45, at 7.) PHT further asserts that "although telephone networks typically utilize digital data networks, not all digital data networks are telephone networks." (*Id.*) Lastly, PHT points to claim 39, which depends from claim 34, and is directed to "[a] personal health tracking system . . . wherein the connection device comprises a modem that is connectable directly to a public telephone network." (Col. 31, 11. 46-48.) PHT maintains that because claim 39 is encompassed by claim 34, the "digital data network" recited in claim 34 cannot exclude the "public telephone network" of claim 39. (D.I. 45, at 7.)

The court is persuaded by PHT's argument that, as used in the '985 patent, the term "digital data network" does not exclude a telephone network. The plain meaning of the term "digital data network" is "a network that transmits digital data." As PHT correctly asserts, a telephone network is a network that transmits

[*32] digital data, for example, through a VoIP system or DSL technology. Thus, the plain and ordinary meaning of "digital data network" includes a telephone network. In addition, while the terms "digital data network" and "telephone network" in claims 46 and 47 have a different meaning, the court agrees with PHT that none of the language recited in those claims suggests that the terms are mutually exclusive.

The specification does not rebut the presumption that the plain and ordinary meaning of "digital data network" applies. The patent applicants have not acted as their own lexicographers, as they have not clearly set forth a definition of "digital data network" in the specification or prosecution history. *See CCS Fitness*, 288 F.3d at 1366; *Johnson Worldwide*, 175 F.3d at 990. The specification does provide that the preferred embodiment uses "some combination of a telephone network and a data network." (Col. 5, 11. 23-24.) As previously discussed, the defendants contend that the description of the preferred embodiment "expressly" distinguishes a telephone network from a digital network in the specification. The court does not agree. The language cited

[*33] by the defendants to support their contention may be limiting. However, it is improper to read a limitation from the specification into the claim, especially when, as here, the specification does not expressly or implicitly limit the scope of the invention to a digital data network that excludes a telephone network. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 904, 908 (Fed. Cir. 2004). for example, the specification states that "those skilled in the art will recognize that there is a variety of means to transfer data from site to site." (Col. 5, ll. 29-31.) This statement certainly contemplates the use of a telephone network that transmits digital data.

Lastly, the prosecution history does not support the conclusion that the patentees distinguished the term "digital data network" from the prior art on the basis that a telephone network was excluded, disclaimed a telephone network, or described an embodiment that excluded a telephone network as important to the invention. As previously stated, the defendants contend that the difference between claim 1 and claim 34 that the applicants referred to is that claim 1 is directed to a broad "communication network,

[*34] " while claim 34 is limited to a "digital data network." Again, the court disagrees and concludes that the applicants distinguished claim 34 from claim 1 by adding a limitation to what the "data transmission device" could do. In other words, when describing the amendments to claim 1, the applicants stated that the claim was amended "to specify that the handheld device includes a data transmission device that is capable of connecting directly to a communication network," thereby broadly defining "data transmission device." When distinguishing claim 1 from claim 34, however, the applicants told the patent examiner that claim 34 is "similar to claim 1, but is limited to a data transmission device that transmits data to a remote data storage location via a digital data network," thereby limiting the properties of the "data transmission device." (*See* D.I. 42 Ex. C. at 13.) Thus, the statements that the applicants made during prosecution do not support a construction of "digital data network" different from its plain and ordinary meaning. The court, therefore, construes "digital data network" to mean "a network that transmits digital data." n10

n10 The court will construe the term "digital data network" in claim 37 consistently with its

construction of "digital data network" in claim 34. Thus, for the reasons stated above, the court construes the term "digital data network" in claim 37 to mean "a network that transmits digital data."

[*35]

D. Claim 36

Claim 36 provides:

A personal health tracking system according to claim 34 wherein the digital data network comprises a *public data network.*

As with the term "digital data network," the parties dispute whether the term "public data network" includes or excludes a telephone network. Both PHT and the defendants rely on the same arguments set forth for the construction of "digital data network." Because the court has already construed the term "digital data network," and a "public data network" is a subset of the "digital data network," the court will construe "public data network" to mean "a publicly accessible network that transmits digital data."

E. Claim 38

Claim 38 is directed to a personal health tracking system and reads:

A personal health tracking system according to claim 34 wherein the data transmission device comprises a *connection device* that facilitates connection to the data network. The parties dispute the term "connection device." At the *Markman* hearing, the parties agreed to the following construction of this term: "a device, including but not limited to a modem, that facilitates connection of the portable unit to the data network.

[*36] " Accordingly, the court will construe the term "connection device" to mean "a device, including but not limited to a modem, that facilitates connection of the portable unit to the data network."

F. Claims 39 and 40

Claims 39 and 40 depend from claim 38 and are directed to limitations regarding the "connection device." Claim 39 reads:

A personal health tracking system according to claim 38 *wherein the connection device comprises a modem that is connectable directly to a public telephone network.*

Claim 40 reads:

A personal health tracking system according to claim 38 *wherein the connection device is connectable directly to a local data network access connection.*

In both claims, the parties' dispute centers on the phrase "connectable directly." The court, therefore will construe these claims together. The court has already construed the phrase "capable of connecting directly" in claim 22 to mean "capable of connecting without requiring a separate data processor." In order to construe claim terms consistently, as it should, the court concludes that "connectable directly" means "capable of connecting without requiring a separate data processor." Accordingly,

[*37] the phrase "wherein the connection devices comprises a modem that is connectable directly to a public telephone network" in claim 39 is construed to mean "the connection device includes a modem which can connect to a public telephone network without requiring a separate data processor." The phrase "wherein the connection device is connectable directly to a local data network access connection" in claim 40 is construed to mean "the connection device can connect to a local point of access without requiring a separate data processor."

IV. CONCLUSION

For the reasons stated, the claim terms of the '985 patent shall be construed as set forth in the court's Order of this same date.

Dated: May 19, 2005

/s/ Gregory M. Sleet

UNITED STATES DISTRICT JUDGE

ORDER

For the reasons stated in the court's Memorandum of this same date, IT IS HEREBY ORDERED, ADJUDGED, and DECREED that, as used in the asserted claims of U.S. Patent No. 6,095,985 (the "'985 patent"),

1. The term "subjective data" in claim 22 and claim 34 is construed as "data which is input by the patient to the data logger, regardless of whether that data pertains to the patient or the patient's

[*38] environment, and whether or not the information is objective or factual, such as medication dosage or consumption of a particular food;"

2. The phrase "data transmission device capable of connecting directly to a communication network" in claim 22 is construed as "a device that transmits data and is capable of connecting to a communication network

without requiring a separate data processor;"

3. The phrase "wherein each of the components of the health tracker is part of a single unified portable unit" in claim 22 is construed as "wherein each of the components of the health tracker is a part of a coherent group or whole that is capable of being carried;"

4. The phrases "digitized representation of the detected writing" in claim 29 and "digitized representation of the subject's writing" in claim 30 are construed as "digital data that represents the subject's writing;"

5. The phrase "data transmission device of the portable unit" in claim 34 is construed as "a device that transmits data and is part of a coherent group or whole that is capable of being carried;"

6. The term "digital data network" in claim 34 and claim 37 is construed as "a network that transmits
[*39] digital data;"

7. The term "public data network" in claim 36 is construed as "a publicly accessible network that transmits digital data;"

8. The phrase "a connection device that facilitates connection to the data network" in claim 38 is construed as "a device, including but not limited to a modem, that facilitates connection of the portable unit to the data network;"

9. The phrase "wherein the connection device comprises a modem that is connectable directly to a public telephone network" in claim 39 is construed as "the connection device includes a modem which can connect to a public telephone network without requiring a separate data processor;"

10. The phrase "wherein the connection device is connectable directly to a local data network access connection" in claim 40 is construed as "the connection device can connect to a local point of access without requiring a separate data processor."

Dated: May 19, 2005

/s/ Gregory M. Sleet

UNITED STATES DISTRICT JUDGE

LEXSEE

POWER INTEGRATIONS, INC., a Delaware corporation, Plaintiff, v. FAIRCHILD SEMICONDUCTOR INTERNATIONAL, INC., a Delaware corporation, and FAIRCHILD SEMICONDUCTOR CORPORATION, a Delaware corporation, Defendants.

C.A. No. 04-1371-JJF

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

2006 U.S. Dist. LEXIS 14291

March 31, 2006, Decided

PRIOR HISTORY: Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 233 F.R.D. 143, 2005 U.S. Dist. LEXIS 30570 (D. Del., 2005)

CASE SUMMARY:

PROCEDURAL POSTURE: Plaintiff patentee brought an action against defendant semi-conductor companies alleging willful infringement of four patents. The parties briefed their respective positions on claim construction, and the court conducted a Markman hearing on the disputed terms in the asserted patents.

OVERVIEW: The patents related to integrated circuit devices used in power supplies and could be broken down into two categories. The first type of technology related to the physical structure of a high voltage metal-oxide semiconductor (MOS) transistor device. The second type of technology related to the circuit design associated with the integrated power supply controllers made by the patentee. As the parties noted, the term "DMOS" was not found in the asserted claims of the MOS patent. Because DMOS was not a claim term, the court concluded that its meaning was not properly considered in the context of claim construction and declined to provide a construction in the context of its Markman rulings. The court did construe several other terms, including the term "coupled." In light of the claim language and specification, the court concluded that two circuits were coupled when they were connected such that voltage, current, or control signals passed from one to another. However, the court cautioned that its construction did not imply or necessitate a direct connection, as the court did not read the patent to require a direct connection or to preclude the use of intermediate circuit elements.

OUTCOME: The court construed the disputed terms in the four patents at issue and entered an order setting forth the meaning of the disputed terms.

CORE TERMS: voltage, frequency, patent, signal, soft, variation, secondary, specification, transistor, substrate, region, pocket, channel, drain, surface, switch, adjoining, layer, coupled, jittering, invention, oscillator, switching, construe, conductivity, top layer, supplemental, varying, comprising, modulated

LexisNexis(R) Headnotes

Patent Law > Infringement Actions > Claim Interpretation > General Overview

[HN1] Claim construction is a question of law. When construing the claims of a patent, a court considers the literal language of the claim, the patent specification and the prosecution history. Of these sources, the specification is considered the single best guide for discerning the meaning of a claim.

Patent Law > Infringement Actions > Claim Interpretation > Aids
[HN2] In construing a patent claim, a court may consider extrinsic evidence, including expert and inventor testimony, dictionaries, and learned treatises, in order to assist it in understanding the underlying technology, the meaning of terms to one skilled in the art and how the invention works. However, extrinsic evidence is considered less reliable and less useful in claim construction than the patent and its prosecution history. A court should also interpret the language in a claim by applying the ordinary and accustomed meaning of the words in the claim. If the patent inventor clearly supplies a different meaning; however, then the claim should be interpreted according to the meaning supplied by the inventor. If possible, claims should be construed to uphold validity.

Patent Law > Infringement Actions > Claim Interpretation > Means Plus Function
[HN3] When the word "means" is not used in a claim term, a rebuttable presumption arises that 35 U.S.C.S. § 112, para. 6 does not apply. This presumption can be rebutted, if the party advancing a means-plus-function construction demonstrates that the claim term fails to recite sufficiently definite structure or recites a function without reciting a sufficient structure for performing that function.

Patent Law > Infringement Actions > Claim Interpretation > Means Plus Function
[HN4] A structure disclosed in a patent specification qualifies as corresponding structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.

COUNSEL:
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JUDGES: Joseph J. Farnan Jr., UNITED STATES DISTRICT JUDGE.

OPINIONBY: Joseph J. Farnan Jr.

OPINION:

MEMORANDUM OPINION

March 31, 2006
Wilmington, Delaware

Joseph J. Farnan Jr.
Farnan, District Judge.

This action was brought by Plaintiff, Power Integrations, Inc. ("Power Integrations") against Defendants Fairchild Semiconductor International, Inc. and Fairchild Semiconductor Corporation (collectively "Fairchild") alleging willful infringement of United States Patent Nos. 4,811,075 (the "'075 patent"), 6,107,851 (the "'851 patent"), 6,229,366 (the [*2] "'366 patent"), 6,249,876 (the "'876 patent"). The parties briefed their respective positions on claim construction, and the Court conducted a Markman hearing on the disputed terms in the asserted patents. This Memorandum Opinion presents the Court's construction of the disputed terms.

BACKGROUND

The patents-in-suit generally relate to integrated circuit devices used in power supplies and can be broken down into two categories. The first type of technology which is exemplified in the '075 patent relates to the physical structure of a high voltage metal-oxide semiconductor ("MOS") transistor device. The MOS transistor device described in the

'075 patent incorporates a top layer, referred to as the "p-top" layer," in the "extended drain region" of the device. This technology seeks to provide more efficient high voltage MOS transistors and improved ability to incorporate the high voltage structure into a device having low-voltage circuits on the same integrated circuit chip. According to Power Integrations the technology of the '075 patent created the basis for Power Integrations to form as a company and allowed Power Integrations to provide the first commercially viable,
[*3] "fully integrated" integrated circuit device for use in controlling switch mode power supplies.

The second type of technology is exemplified in the '366, '851 and '876 patents (collectively referred to as the "circuit patents") and relates to the circuit design associated with the integrated power supply controllers made by Power Integrations. The circuit patents relate to circuit structures within the integrated circuit devices that provide functions which are useful to the overall power supply design into which the chips are incorporated. The circuit patents specifically relate to two types of functions, "frequency jitter" and "integrated soft start." According to Power Integrations, the frequency jitter technology allows power supply designers to reduce peak electromagnetic interference ("EMI") so that electronic products can meet government standards set for EMI using smaller, less complicated and less expensive components than that which was available in the prior art. The integrated soft start technology seeks to solve problems associated with starting up a power supply, including limiting the inrush of currents at start up.

DISCUSSION

I. The Legal Principles
[*4] **of Claim Construction**

[HN1] Claim construction is a question of law. Markman v. Westview Instruments, Inc., 52 F.3d 967, 977-78 (Fed. Cir. 1995), aff'd, 517 U.S. 370, 388-90, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996). When construing the claims of a patent, a court considers the literal language of the claim, the patent specification and the prosecution history. Markman, 52 F.3d at 979. Of these sources, the specification is considered the single best guide for discerning the meaning of a claim. Phillips v. AWH Corporation, 415 F.3d 1303, 1312-1317 (Fed. Cir. 2005).

[HN2] A court may consider extrinsic evidence, including expert and inventor testimony, dictionaries, and learned treatises, in order to assist it in understanding the underlying technology, the meaning of terms to one skilled in the art and how the invention works. Phillips, 415 F.3d at 1318-319; Markman, 52 F.3d at 979-80 (citations omitted). However, extrinsic evidence is considered less reliable and less useful in claim construction than the patent and its prosecution history. Phillips, 415 F.3d at 1318-319 (discussing "flaws" inherent in extrinsic
[*5] evidence and noting that extrinsic evidence "is unlikely to result in a reliable interpretation of a patent claim scope unless considered in the context of intrinsic evidence").

In addition to these fundamental claim construction principles, a court should also interpret the language in a claim by applying the ordinary and accustomed meaning of the words in the claim. Envirotech Corp. v. Al George, Inc., 730 F.2d 753, 759 (Fed. Cir. 1984). If the patent inventor clearly supplies a different meaning; however, then the claim should be interpreted according to the meaning supplied by the inventor. Markman, 52 F.3d at 980 (noting that patentee is free to be his own lexicographer, but emphasizing that any special definitions given to words must be clearly set forth in patent). If possible, claims should be construed to uphold validity. In re Yamamoto, 740 F.2d 1569, 1571 & n.* (Fed. Cir. 1984) (citations omitted).

II. The Meaning Of The Disputed Terms of the Asserted Patents

A. The Disputed Terms In The '075 Patent

All the disputed terms of the '075 patent are contained in independent claim 1 of the '075 patent. In full,
[*6] claim 1 of the '075 patent recites:

1. A high voltage MOS transistor comprising;

a semiconductor substrate of a first conductivity type having a surface;

a pair of laterally spaced pockets of semiconductor material of a second conductivity type within the substrate and adjoining the substrate surface,

a source contact connected to one pocket,

a drain contact connected to the other pocket,

an extended drain region of the second conductivity type extending laterally each way from the drain contact pocket to surface-adjoining positions,

a surface adjoining layer of material of the first conductivity type on top of an intermediate portion of the extended drain region between the drain contact pocket and the surface adjoining positions,

said top layer of material and said substrate being subject to application of a reverse-bias voltage,

an insulating layer on the surface of the substrate and covering at least that portion between the source contact pocket and the nearest surface adjoining position of the extended drain region, and

a gate electrode on the insulating layer and electronically isolated form the substrate region thereunder which [*7] forms a channel laterally between the source contact pocket and the nearest surface-adjoining position of the extended drain region, said gate electrode controlling by field-effect the flow of current thereunder through the channel.

('075 patent, col. 6, ll. 54 - col. 7, ll. 12).

1. **DMOS**

A central part of the parties' dispute focuses on the meaning of the term "DMOS." Although this term is not found in the asserted claims of the '075 patent, Fairchild contends that the construction of this term is important, because Power Integrations disclaimed DMOS structures during the prosecution of the '075 patent.

In its Opening Claim Construction Brief, Fairchild contends that "DMOS" means "double-diffused MOS." In its Answering Claim Construction Brief, Fairchild elaborates that DMOS means "a MOS structure in which the source pocket is formed entirely within a channel region of more heavily doped semiconductor material (commonly referred to as a "body" region) that is formed within the substrate." (D.I. 166 at 5). Fairchild further contends that the term "DMOS" is not restricted to any particular process for making the DMOS structure.

In response, Power Integrations acknowledges [*8] the importance of the construction of the term "DMOS" to Fairchild's arguments, but contends that this term should not be defined by the Court in the context of claim construction because the term "DMOS" is not found anywhere in the '075 patent. According to Power Integrations the DMOS issue pertains to equivalence and estoppel arguments. (D.I. 164 at 2). Power Integrations urges the Court to decline from importing a DMOS limitation into the terms of the '075 patent and requests the Court to defer ruling on whether the scope of the disclaimer made by Power Integrations during the prosecution of the patent has any impact on this case.

In the alternative, Power Integrations contends that the Court should construe the term "DMOS" to mean "a device formed by successive diffusions of different materials through the same opening in an insulating or mask layer." (D.I. 152 at 27). Power Integrations goes on to explain more specifically, that the double diffusion process was used to form the channel and source contact regions of the transistor by successively diffusing material made of different conductivity types. According to Power Integrations, it was important that this diffusing process [*9] was done through the same opening in the insulated layer to allow the edges of the different regions to be controlled with precision, a process known as self-aligning. The result of this process is a transistor with a very short channel length which could be accurately controlled. Power Integrations contends that the term "DMOS" has been broadened since the time of the prosecution of the '075 patent to encompass all electrically asymmetrical transistors including those whose characteristics of the channel region are determined by a separate diffusion step. Power Integrations contends that this broad construction should not be adopted by the Court, because it embraces later-developed technology which was not known at the time of the prosecution of the '075 patent. (D.I. 152 at 29; D.I. 164 at 3-5).

As the parties note, the term "DMOS" is not found in the asserted claims of the '075 patent. Because "DMOS" is not a claim term, the Court concludes that its meaning is not properly considered in the context of claim construction. Accordingly, the Court declines to provide a construction for the term "DMOS" in the context of its Markman rulings and will defer construction of this term

[*10] until such time as the Court is presented with the equivalence and/or estoppel issues involving this term. n1

n1 Prosecution history estoppel is a question of law; however, equivalence is a question of fact. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 344 F.3d 1359, 1367 (Fed. Cir. 2003). As such, it may well be that resolution of the "DMOS" debate in its entirety will require the Court to have a complete factual record. Accordingly, for this additional reason, the Court declines to rule on the meaning of the term "DMOS" in the context of the purely legal question of claim construction.

2. **MOS transistor**

It appears to the Court that the parties agree that the term "MOS transistor" means "a metal-oxide-semiconductor transistor." (D.I. 152 at 30; D.I. 156 at 7). The parties' primary dispute with respect to this claim is whether the claim's recitation of an "MOS transistor" excludes a "DMOS" transistor, which in turn implicates the question of what a "DMOS" transistor encompasses.

[*11] Accordingly, the Court will defer commenting on whether the term "MOS transistor" excludes "DMOS" and define the term "MOS transistor" for purposes of claim construction as "a metal oxide transistor."

3. **substrate**

The parties also do not dispute that "substrate" means "the physical material on which a transistor or microcircuit is fabricated." (D.I. 152 at 30; D.I. 156 at 8). Rather, the parties' dispute what it means for the "pockets" and "channel" to be "within the substrate." n2 This debate implicates the DMOS issue, and therefore, the Court will defer providing a more specific construction for the term "substrate" than that which has been agreed to by the parties, until such time as the DMOS issue is properly before the Court.

n2 References to the "pockets" and "channel" are made in other portions of claim I of the '075 patent discussed infra.

4. **a pair of laterally spaced pockets of semiconductor material of a second conductivity type within the substrate**

It appears to the Court that the

[*12] parties do not dispute that the phrase "a pair of laterally spaced pockets of semiconductor material of a second conductivity type within the substrate" means "two laterally spaced pockets of semiconductor material of the opposite conductivity type from the substrate." (D.I. 152 at 31; D.I. 156 at 10). However, the parties dispute whether the phrase "within the substrate" means that the pockets must be within the un-doped wafer and not within a well-region. The parties also dispute whether Power Integrations disclaimed reading this element on a DMOS transistor.

Based on the parties' claim construction briefing, the Court understands that both of the aforementioned claim construction disputes relate to the DMOS coverage issue. For the reasons discussed in the context of the other DMOS-related terms, the Court will defer providing a construction of the disputed phrase beyond that which has been agreed to by the parties.

5. **a surface adjoining layer of material of the first conductivity type on top of an intermediate portion of the extended drain region between the drain contact pocket and the surface-adjoining positions**

Fairchild contends that "a surface adjoining layer of material

[*13] of the first conductivity type on top of an intermediate portion of the extended drain region between the drain contact pocket and the surface-adjoining positions" means "a layer of material the same conductivity as the substrate above a portion of the extended drain region and between the drain contact pocket and each of the surface

adjoining positions of the extended drain region. Power Integrations disclaimed reading this element on a DMOS transistor." (D.I. 156 at 11). Fairchild further. acknowledges in its Opening Brief, that the parties do not substantially disagree as to how this phrase should be construed, but that their disagreement again centers on whether DMOS has been disclaimed by Power Integrations.

Power Integrations contends that this phrase does not require construction, because the meaning of its individual words is clear and the image conjured by these words can be easily understood by a jury by referencing Figure 1 of the '075 patent. In the event the Court chooses to construe this phrase, Power Integrations advocates the following construction: "a layer of material of the same conductivity type as the substrate located on top of a portion of the extended drain
[*14] region between the drain contact pocket and surface adjoining positions of the extended drain region." (D.I. 152 at 33-34). Power Integrations contends that Fairchild's use of the term "above" is an attempt to introduce an ambiguity into the claim language, and that its construction more closely tracks the claim language. Power Integrations also disagrees with Fairchild that this phrase excludes all applications to devices that may be referred to as DMOS transistors.

Reviewing the claim language in the context of the specification, the Court agrees with Power Integrations that the meaning of this element is clear and further construction by the Court is not warranted. To the extent that the parties dispute whether Power Integrations disclaimed reading this element on a DMOS transistor, the Court will defer resolution of that issue for the reasons discussed above.

6. **said top layer of material**

Power Integrations contends that the meaning of the term "said top layer of material" is clear and that it should not be construed. To the extent that a construction is required, Power Integrations contends that the phrase is appropriately construed by reference to the preceding clause
[*15] as the "surface adjoining layer." (D.I. 152 at. 33; D.I. 164 at 8).

Fairchild contends that the phrase "said top layer of material" lacks an antecedent basis, and therefore it cannot be construed. Fairchild contends that Power Integrations' proposed construction is incorrect, because "surface adjoining layer" is already part of the claims. (D.I. 156 at 13).

The Court disagrees with Fairchild that the terms "said top layer of material" lacks an antecedent basis and cannot be construed. In the Court's view, it is clear that "said top layer of material" refers to the "surface adjoining layer" discussed in the preceding paragraph. n3 Accordingly, the Court concludes that construction of this phrase beyond its plain meaning when read in the context of the claim is not required, and therefore, the Court will not provide a construction for this phrase.

> n3 Indeed, Fairchild itself refers to the "top layer or "surface adjoining layer" in its argument related to "reverse bias voltage" (D.I. 166 at 19), which further supports the Court's conclusion that the phrase "said top layer of material" is easily understood in the context of the claim language as referring to the "surface adjoining layer."

[*16]

7. **being subject to application of a reverse-bias voltage**

Fairchild contends that this phrase "being subject to application of a reverse-bias voltage" means "experiencing a bias voltage applied to a semiconductor junction with polarity that permits little or no current to flow." (D.I. 156 at 13). Fairchild contends that the specification does not require the "top layer" or the "surface adjoining layer" to be connected to the ground.

Power Integrations contends that "reverse bias voltage" means "a voltage applied across a rectifying junction with a polarity that provides a high-resistance path." Power Integrations further contends that a proper construction of this phrase means that "the surface adjoining layer of material and the substrate recited in the claims are connected in some way to 'ground.'" (D.I. 152 at 34). Stated another way. Power Integrations contends that the top layer and the substrate are connected together, and thus grounded.

Reviewing the claim language in light of the specification of the '075 patent, the Court concludes that the term "reverse bias voltage" means "a voltage applied across a rectifying junction with a polarity that provides a high-resistance
[*17] path." Indeed, it does not appear to the Court that the parties substantially dispute that this definition of the term is the more technically accurate definition. (D.I. 166 at 19; D.I. 152 at 34). Rather, the parties' disagreement centers on the issue of whether "reverse bias voltage" requires the surface adjoining layer of material and the substrate recited in the claim to be connected to the ground. The specification of the '075 patent clearly states that the "top layer is either connected to the substrate or left floating." '075 patent, col. 2, ll. 61-63. Accordingly, the Court concludes that the patent does not provide for a grounding limitation, and therefore, the Court concludes that "reverse bias voltage" means "a voltage applied across a rectifying junction with a polarity that provides a high-resistance path."

8. **substrate region thereunder which forms a channel**

Fairchild contends that the "substrate region thereunder which forms a channel" means "a channel is formed laterally in the substrate between the source contact pocket and the nearest surface adjoining position of the extended drain region." (D.I. 156 at 12). Fairchild also contends that Power Integrations
[*18] disclaimed reading this element on a DMOS transistor.

Power Integrations contends that this phrase should be afforded its plain meaning and refers to the physical location of the channel as being formed underneath the gate region. More specifically, Power Integrations contends that "the channel is formed underneath the insulated gate in the substrate which can include, for example, being formed in a well or otherwise doped region located underneath the gate." (D.I. 152 at 35). Power Integrations also states that the "channel" of a transistor is "a well known term that refers to the region in which the electrical charge flows when the transistor is active." (D.I. 152 at 34-35).

Fairchild does not dispute the definition of "channel" provided by Power Integrations; however, the parties do not specifically ask the Court to construe the term "channel" and their claim construction disputes do not focus on the meaning of the term "channel" itself. Accordingly, the Court will not provide further construction of the word "channel." As for the location of the channel, the Court further concludes that the phrase does not require further construction by the Court, as it is clear from the claim
[*19] language that the channel is between the source contact pocket and the nearest surface adjoining position of the extended drain region.

The parties' primary dispute with respect to this phrase again focuses on whether Power Integrations disclaimed reading this element on a DMOS transistor. In this regard, it appears to the Court that the DMOS issue is also related to whether the channel is formed in well material or otherwise doped material beneath the insulated gate as argued by Power Integrations. For the reasons discussed in the context of the other DMOS-related terms, the Court will defer ruling on the question of whether Power Integrations disclaimed reading this claim element on a DMOS transistor.

B. The Disputed Terms In The '876 Patent

Power Integrations has asserted claims 1, 17 and 19 of the '876 patent against Fairchild. Accordingly, the Court will proceed to construe the disputed terms found in those claims.

1. Claim 1

Claim 1 of the '876 patent recites:

1. A digital frequency jittering circuit for varying the switching frequency of a power supply, comprising:

an oscillator for generating a signal having a switching frequency, the oscillator
[*20] having a control input for varying the switching frequency;

a digital analog converter coupled to the control input for varying the switching frequency; and

a counter coupled to the output of the oscillator and to the digital to analog converter, the counter causing the digital to analog converter to adjust the control input and to vary the switching frequency.

('876 patent, col. 8, ll. 41-52).

a. **frequency jittering**

Power Integrations contends that the term "frequency jittering" means "varying the switching frequency of a switch mode power supply about a target frequency in order to reduce electromagnetic interference." (D.I. 152 at 6). Power Integrations also contends that the "jittering" or variation in the frequency signal must be controlled and predetermined. Stated another way, Power Integrations requests the Court to construe the term "frequency jittering" to mean "a controlled and predetermined change or variation in the frequency of a signal." (D.I. 152 at 8).

Fairchild contends that the Court should decline to construe the term "frequency jittering," because it appears in the preamble of the claim and is not a limitation on the claim. (D.I. 166
[*21] at 34-35). Rather, Fairchild contends that the term "frequency jittering" in the preamble only states the purpose of the invention, and gives no meaning to the claim. However, if the Court chooses to construe the term "frequency jittering," Fairchild contends that the term means "varying the frequency of operation of the pulse width modulated switch by varying the oscillation frequency of the oscillator." (D.I. 156 at 33). Fairchild contends that the term should not be limited to . "controlled and predetermined" changes or variations, because the preferred embodiment should not be used to limit the claim.

Reviewing the disputed term in light of the claim language and the specification n4, the Court concludes that the term "frequency jittering" means "varying the switching frequency of a switch mode power supply about a target frequency in order to reduce electromagnetic interference." The Court further agrees with Power Integrations that changes or variations in the frequency of the signal must be controlled and predetermined to achieve the purpose of the claimed invention. n5

n4 The specification of the '851 patent was incorporated by reference into the specification of the '876 patent.
[*22]

n5 In concluding that the term "frequency jittering" requires construction, the Court further concludes that while the term "frequency jittering" is found in the preamble, it is a term which gives meaning to the claim and defines the invention. The invention is not just a "circuit" but a "digital frequency jittering circuit." Reading the patent as a whole, the Court is persuaded that this language is not mere introductory language, but language which is meant to define the invention and limit the claim. See In re Paulsen, 30 F.3d 1475, 1479 (concluding that term "computer" used in preamble was a claim limitation that gave life and meaning to the claims).

Fairchild's proposed construction for the term "frequency jittering" is derived from the following sentence in the "Background of the Invention" section of the '851 patent:

> Varying the frequency of operation of the pulse width modulated switch by varying the oscillation frequency of the oscillator is referred to as frequency jitter.

('851 patent, col. 3, l. 28-30). In the context of the invention as a whole, however,
[*23] the Court reads this sentence to be a generic description of "frequency jitter" and not a definition of the "frequency jittering" described in the '876 patent. The '876 patent specifically describes the purpose of the invention as "deviating or jittering the switching frequency of the switched mode power supply oscillator within a narrow range to reduce EMI noise by spreading the energy over a wider frequency range than the bandwidth measured by the EMI test equipment." ('876 patent, Abstract) (emphasis added). As the Court understands the technology, the express purpose of the invention, namely the reduction of EMI noise, cannot be achieved if the jittering is not controlled and predetermined. In this regard, the specification further explains the advantages of the claimed invention in reducing EMI over the prior art are due to the fixed and controlled manner of the frequency jittering:

> pulse width modulated switch 262 may also have frequency jitter functionality. That is, the switching frequency

> of the pulse width modulated switch 262 varies according to an internal frequency variation signal. This has an advantage over the frequency jitter operation of FIG. 1 [the prior
> [*24] art] in that the frequency range of the presently preferred pulse width modulated switch 262 is known and fixed, and is not subject to the line voltage or load magnitude variations.

('851 patent, col. 6, ll. 11-17) (emphasis added). Accordingly, the Court concludes that Fairchild's construction is overly broad and inconsistent with the specification, when it is read in the context of the claimed invention.

b. **coupled**

Fairchild contends that the term "coupled" should be given its plain and ordinary meaning. Specifically, Fairchild contends that "two circuits are coupled when they are configured such that signals pass from one to the other." (D.I. 152 at 10). Fairchild contends that Power Integrations' construction of this term seeks to imply a requirement that the connection be a direct connection, or a connection without any intermediate circuit elements. Fairchild contends that such a construction is inappropriate and is driven by Power Integrations' concern that the claims may be found invalid in light of the prior art.

Power Integrations contends that "two circuits are coupled when they are connected such that voltage, current, or control signals pass from
[*25] one to another." (D.I. 152 at 10; D.I. 164 at 17-18). According to Power Integrations its construction of the term "coupled" does not require a direct connection as Fairchild contends. Rather, Power Integrations contends that its construction reflects more accurately the nature of the coupling recited in the patent, because the recited coupling is present "for the purposes of control (i.e. 'digital to analog converter coupled to the control input for varying the switching frequency' and 'counter coupled to the . . . digital to analog converter, the counter causing the digital to analog converter to adjust...'" (D.I. 152 at 10).

Construing the term "coupled" in light of the claim language and specification, the Court concludes that "two circuits are coupled when they are connected such that voltage, current or control signals pass from one to another." In reaching this determination, the Court concludes that Fairchild's construction is overly broad and generic and fails to consider the term "coupled" in the context of the invention. In the Court's view, its construction of the term "coupled" is consistent with the claim language and the context of the specification which describes
[*26] the purpose for which various parts of the claimed invention are coupled. ('876 patent, claim 1, col. 8, ll. 48-49, 50-52). However, the Court's construction of the term "coupled" should not be read to imply or necessitate a direct connection, as the Court does not read the patent to require a direct connection or to preclude the use of intermediate circuit elements.

2. Claim 17

Claim 17 of the '876 patent recites:

> A method for generating a switching frequency in a power conversion system, comprising:
>
> generating a primary voltage;
>
> cycling one or more secondary voltage sources to generate a secondary voltage which varies over time; and
>
> combining the secondary voltage with the primary voltage to be received at a control input of a voltage-controlled oscillator for generating a switching frequency which is varied over time.

('876 patent, col. 9, ll. 36-45).

a. **primary voltage**

[*27] voltage source. Fairchild contends that the voltages and voltage sources must be considered together, because the voltage must be generated from some source. Fairchild contends that a construction which ignores the source blurs the distinction between the primary and secondary voltages, because the claim describes the secondary voltage as being generated from a secondary voltage source. Thus, Fairchild maintains that the primary voltage cannot come from the secondary voltage source as Power Integrations suggests.

Power Integrations contends that any claim limitations with respect to how the secondary voltage is generated should not be imported into the meaning of the term "primary voltage." Power integrations contends that nothing in the patent limits the primary voltage to a voltage generated solely by a primary voltage source. (D.I. 152 at 11-12; D.I. 164 at 18-19).

Reviewing the disputed term in light of the claim language and the specification, the Court concludes that the term "primary voltage" means "a base or initial voltage" and that the term should not be defined by reference to the source from which it may be generated. Neither the claim language nor the specification describe
[*28] how the primary voltage source is generated, and therefore, the Court declines to construe the term to require a distinct source.

b. **secondary voltage**

Fairchild contends that a "secondary voltage" means "a voltage generated by the secondary voltage source." (D.I. 156 at 36) . In advancing this claim construction, Fairchild specifically argues that the "secondary voltage sources are additional voltage sources which are distinct from the primary voltage source."

In response, Power Integrations contends that a "secondary voltage" means "a subsequent or additional voltage." In advancing this construction, Power Integrations also refers to the definition of secondary voltage source. Power Integrations contends that, in accordance with its plain meaning, a "voltage source" means a "source of voltage," and the term "secondary" means something that comes second or subsequent. Thus, Power Integrations maintains that a "secondary voltage source" means "one or more voltage sources used to generate the secondary voltage," and therefore, secondary voltage means "subsequent or additional voltage." (D.I. 152 at 12-13).

Reviewing the claim language and the specification, the Court concludes
[*29] that the term secondary voltage means "subsequent or additional voltage." While the claim language does require the secondary voltage to be generated by the secondary voltage source, there is no requirement that the secondary voltage source be distinct from the source of the primary voltage as discussed previously. Further, in the Court's view, identification of the voltage source for the secondary voltage is not a necessary part of defining the claim, because the source of the secondary voltage is clearly recited in the claim language. Accordingly, the Court construes "secondary voltage" to mean "a subsequent or additional voltage."

c. **cycling**

Although Power Integrations requests the Court to construe the term "cycling," it appears to the Court that the parties have since reached an agreement that the term cycling means "using in a repeating sequence or a pattern." (D.I. 152 at 13; D.I. 166 at 37, n. 19). Accordingly, further construction by the Court of this term is not warranted.

d. **combining**

Fairchild contends that the term "combining" should be construed to mean "adding together from two or more different sources." (D.I. 156 at 37-38). Power Integrations contends
[*30] that this term does not require construction, and should be subject to its plain English-language interpretation. To the extent construction is required, Power Integrations contends that the term "combining" means "adding together" and that different sources are not required as Fairchild contends. (D.I. 152 at 13).

In light of the Court's construction of the terms "primary voltage" and "secondary voltage" the Court agrees with Power Integrations that the term "combining" should not be construed as requiring different sources. Fairchild contends that the plain meaning of this term necessarily requires different sources, however, even the dictionary does not define the term "combine" by reference to a particular source. See Webster's Ninth New Collegiate Dictionary 262 (9th ed. 1988). Accordingly, the Court will construe the term "combining" consistent with its plain meaning such that the term "combining" means "adding together."

3. Claim 19 - **supplemental voltage**

Claim 19 of the patent depends from claim 17. Claim 19 recites:

> 19. The method of claim 17 wherein the primary voltage is V and each of the secondary voltage sources generates a supplemental voltage lower than
> [*31] V, further comprising passing the supplemental voltage to the voltage-controlled oscillator.

('876 patent, col. 9, ll. 48-52).

The only term requiring construction in claim 19 is the term "supplemental voltage." Fairchild contends that "supplemental voltage" means "voltage other than the primary or secondary voltage." Fairchild contends that each claim term must have meaning and therefore, the supplemental voltage must be a third voltage which is distinct from the primary and secondary voltages. (D.I. 156 at 37).

In response, Power Integrations contends that the term "supplemental voltage" does not require construction. Power Integrations contends that Fairchild's construction is inconsistent with the language of claim 17 and 19, because according to the plain language of claim 17, "one or more secondary voltage sources, together, generate a secondary voltage." (D.I. 152 at 14) (emphasis in original). Power Integrations also contends that the plain language of claim 19 indicates that each secondary source itself generates a supplemental voltage whose magnitude is lower than V, the magnitude of the primary voltage. Thus, the secondary voltage is the total of the supplemental
[*32] voltages, each generated by one secondary voltage source. In this regard, Power Integrations contends that it is incorrect to construe supplemental voltage as something other than secondary voltage, as Fairchild contends. To the extent construction of this phrase is required, Power Integrations contends that the phrase should be construed as "a voltage in addition to the primary voltage." (D.I. 152 at 14).

Reviewing the disputed term in the context of the claim language and the specification, the Court agrees with the construction proposed by Power Integrations. Reading claim 17 and 19 together, the Court is persuaded that the secondary voltage is the total of the supplemental voltages which are each generated by one secondary voltage source. Thus, the Court construes the term "supplemental voltage" to mean "a voltage in addition to the primary voltage."

C. The Disputed Terms of The '366 Patent and The '851 Patents

1. Claim 1 of the '366 patent

Claim 1 of the '366 patent provides:

> 1. A pulse width modulated switch comprising:
>
> a first terminal;
>
> a second terminal;
>
> a switch comprising a control input, the switch allowing a signal to be transmitted
> [*33] between said first terminal and said second terminal according to a drive signal provided at said control input;
>
> an oscillator that provides a maximum duty cycle signal comprising an on-state and an off-state;
>
> a drive circuit that provides said drive signal according to said maximum duty cycle signal; and
>
> a soft start circuit that provides a signal instructing said drive circuit to disable said drive signal during at least a portion of said on-state of said maximum duty cycle.

('366 patent, col. 12, ll. 23-37).

a. maximum duty cycle signal comprising an on-state and an off-state

Although Power Integrations requests the Court to construe the phrase "maximum duty cycle signal comprising an on-state and an off-state," it appears to the Court that the parties have since reached a stipulation with respect to the meaning of this phrase. (D.I. 156 at Exh. A). Accordingly, further intervention by the Court with respect to this issue is not warranted.

b. soft start circuit

The parties' dispute with respect to the term "soft start circuit" is whether the term "soft start circuit" should be construed as a means-plus-function limitation in accordance with
[*34] 35 U.S.C. § 112, P6, and if so, what are the appropriate corresponding structures. The parties do not dispute that the functions of the various soft start circuits set forth in each of the claims in which the term "soft start circuit" appears should be construed in accordance with their plain language meaning. (D.I. 152 at 17, n.5; D.I. 166 at 32-33). Accordingly, the Court will limit its discussion to the applicability of Section 112, P6, and if Section 112, P6 applies, to the appropriate corresponding structures.

Power Integrations contends that the term "soft start circuit" should be construed as a means-plus-function element. Power Integrations recognizes that the term "means" is not used in the claim, which gives rise to the presumption that the term is not a means-plus-function element. However, Power Integrations contends that the presumption is overcome in this case, because one skilled in the art would not be able to discern from the claim language which specific structure or class of structures is covered by the claim. Power Integrations contends that the structures corresponding to the soft start circuit are shown in Figures 3, 6, and 9 of the '366
[*35] patent specification and discussed at column 6, lines 7 through 17; column 6, line 35 through column 7, line 18; column 11, lines 40 through 50 and column 12, lines 5 through 10. (D.I. 152 at 17-20).

Fairchild contends that "soft start circuit" should not be construed as a means-plus-function limitation. Based on the Federal Circuit's decision in Linear Tech. Corp. v. Impala Linear Corp., 379 F.3d 1311, 1320 (Fed. Cir. 2004), Fairchild contends that a circuit is a sufficiently definite structure such that Power Integrations has not overcome the presumption that Section 112, P6 does not apply. To the extent the Court chooses to construe "soft start circuit" as a means-plus-function limitation, Fairchild contends that all of the embodiments to the specification should be considered, including soft start capacitor (110), and that Power Integrations' identification of proposed corresponding structures improperly limits the claim to particular embodiments in an attempt to avoid the prior art. (D.I. 166 at 29-33).

[HN3] When the word "means" is not used in a claim term, a rebuttable presumption arises that Section 112, P6 does not apply. This presumption can be rebutted, if
[*36] the party advancing a means-plus-function construction demonstrates that the claim term fails to recite sufficiently definite structure or recites a function without reciting a sufficient structure for performing that function. In the Court's view, Power Integrations has overcome this presumption. Although one skilled in the art would know the functionality of soft start, the Court is not persuaded that such a person would also know the precise structures for a soft start circuit, because the function of a soft start circuit can be achieved in a variety of ways making it unclear what the specific structures are for performing the recited functions. Fairchild contends that a soft start circuit should be construed as a "circuit that minimizes inrush currents at start up." However, the portion of the specification upon which Fairchild relies does not define "soft start circuit." Rather, the specification defines "soft start functionality," not "soft start circuit," and "soft start functionality" is defined in terms of the prior art depicted in Figure 1. In contrast, the specification uses the term "soft start circuit" to describe the claimed invention, and the term "soft start circuit"
[*37] is not equated with the prior art's use of the soft start capacitor 110.

Fairchild also contends that a soft start circuit is not a means-plus-function limitation, because the Federal Circuit has recognized in other cases that the term "circuit" identifies a sufficient structure. However, a claim element must be construed in light of the specific claims at issue, and the Court is persuaded that the cases to which Fairchild refers involve a different use of the term "circuit." For example, in Linear, the Federal Circuit concluded that the term "circuit" was sufficiently coupled with a description of the circuit's operation such that "persons of ordinary skill in the art would understand the structural arrangements of circuit components from the term 'circuit' coupled with the qualifying language of claim 1 . . ." 379 F.3d at 1320 (emphasis added). Similarly, in Apex Inc. v. Raritan Computer, Inc., the Federal Circuit recognized that "every use of the term 'circuit' in the asserted claims included additional adjectival qualifications further identifying sufficient structure to perform the claimed functions to one of ordinary skill in the art." 325 F.3d 1364, 1374 (Fed. Cir. 2003).
[*38] In this case, however, the Court is persuaded that one skilled in the art would understand the term "soft start

circuit" as encompassing a variety of different possible structures and that those possible structures are not sufficiently identifiable from the claim language. Accordingly, the Court agrees with Power Integrations that the term "soft start circuit" should be construed in accordance with Section 112, P6.

Having concluded that Section 112, P6 applies, the Court must next identify the corresponding structures that perform the functions recited in the claims. Based on the teachings of the specification, the Court concludes that the corresponding structures are shown in Figures 3, 6 and 9 of the '366 patent and described in the specification at column 6, lines 7 through 17; column 6, line 35 through column 7, line 18; column 11, lines 40-50 and column 12, lines 5 through 10. Fairchild argues that the corresponding structure must include the soft start capacitor 110 depicted in the prior art. The Court disagrees. [HN4] "A structure disclosed in the specification qualifies as 'corresponding' structure only if the specification or prosecution history clearly links or associates that
[*39] structure to the function recited in the claim." Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1308-1309 (Fed. Cir. 2005). In the Court's view, the term "soft start circuit" is used to describe the invention which is an internal "soft start circuit." The Court does not read the specification to equate the claimed "soft start circuit" with the soft start capacitor 110. To the contrary, in the Court's view, the specification teaches away from the prior art of soft start capacitor 110, which is an external capacitor. ('366 patent, col. 3, ll. 5-16) (discussing problems with using external capacitor to provide soft start functionality). Moreover, patent claims should be construed, where possible, to uphold their validity, and the Court is not persuaded that Fairchild's construction, which embraces the prior art, is sound, particularly where, as here, the Patent Examiner allowed the claims in the face of prior art that was expressly disclosed, labeled and discussed at length in the patent.

2. Claim 1 of the '851 patent

Claim 1 of the '851 patent recites:

1. A pulse width modulated switch comprising:

a first terminal;
[*40]

a second terminal;

a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;

a frequency variation circuit that provides a frequency variation signal;

an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and

a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and a magnitude of said oscillation signal is below a viable threshold level.

('851 patent, col. 12, ll. 15-34).

a. frequency variation circuit that provides a frequency variation signal

As a threshold matter, the parties agree that the term "frequency variation circuit" means "a structure that provides the frequency variation signal." (D.I. 152 at 21; D.I. 166 at 20, n.12). Thus, the parties' dispute centers on the meaning of the "frequency variation
[*41] signal."

Fairchild contends that the term "frequency variation signal" should be construed in accordance with its plain meaning as "a signal that is used to vary the frequency of the oscillation signal." (D.I. 156 at 27). Fairchild contends that its construction is consistent with other claim elements like the oscillator element:

> an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal . . .

('851 patent, claims 1, col. 6 ll. 25-28 and claim 11, col. 13, ll. 35-38).

Power Integrations contends that the term "frequency variation signal" means "an internal signal that cyclically varies in magnitude during a fixed period of time and is used to modulate the frequency of the oscillation signal within a predetermined frequency range." (D.I. 152 at 23). Power Integrations' proposed construction is derived from a discussion in the specification of the frequency variation signal which contrasts such a signal from the known prior art.

Reviewing the disputed claim in the context of the claim language and the specification, taken as a [*42] whole, the Court concludes that a "frequency variation signal" means "an internal signal that cyclically varies in magnitude during a fixed period of time and is used to modulate the frequency of the oscillation signal within a predetermined frequency range." The Court's construction is supported by the specification which defines the frequency variation signal in terms of a known and fixed frequency range during a fixed period of time. In this regard, the specification teaches:

> Alternatively, or in addition to soft start functionality, pulse width modulated switch 262 may also have frequency jitter functionality. That is, the switching frequency of the pulse width modulated switch 262 varies according to an internal frequency variation signal. This has an advantage over the frequency jitter operation of FIG. 1 in that **the frequency range of the presently preferred pulse width modulated switch 262 is known and fixed,** and is not subject to the line voltage or load magnitude variations.

('851 patent, col. 6, ll. 10-17).

> Referring to FIG. 3, frequency variation signal 400 is utilized by the pulse width modulated switch 262 to vary its switching frequency [*43] within a frequency range. The frequency variation signal 400 is provided by frequency variation circuit 405, which preferably comprises an oscillator that operates at a lower frequency than main oscillator 465. The frequency variation signal 400, is presently preferred to be a triangular waveform that preferably oscillates between four point five (4.5) volts and one point five (1.5) volts. Although the presently preferred frequency variation signal 400 is triangular waveform, **alternate frequency variation signals such as ramp signals, counter output signals or other signals that vary in magnitude during a fixed period of time may be utilized as the frequency variation signal.**

('851 patent, col. 6, ll. 25-38).

> If the frequency variation signal 400 is a ramp signal, the frequency would linearly rise to a peak and then immediately fall to its lowest value. In this way, the current provided to current source input 485 of PWM oscillator 480 **is varied in a known fixed range** that allows for easy and accurate frequency spread of the high frequency current generated by the pulse width modulated switch.

('851 patent, col. 7, ll. 43-49).

> That is, the [*44] switching frequency of the regulation circuit 850 varies according to **an internal frequency variation signal.** This has an advantage over the frequency jitter operation of FIG. 1 in that **the frequency range of the presently regulation circuit 850 is known and fixed,** and is not subject to the line voltage or load magnitude variations.

('851 patent, col. 11, ll. 45-50).

Based on the specification taken as a whole, the Court concludes that Fairchild's construction of the term "frequency variation signal" is overly broad. Read in the context of the specification, the Court is persuaded that the definition of the term "frequency variation signal" should include a fixed period of time and a predetermined frequency range. Accordingly, the Court will adopt the construction proposed by Power Integrations for the term "frequency variation signal."

CONCLUSION

For the reasons discussed, the Court has construed the disputed terms in the '075, '366, '851 and '876 patents as provided herein. An Order consistent with this Memorandum Opinion will be entered setting forth the meaning of the disputed terms in the asserted patents.

ORDER

At Wilmington, this 31
[*45] day of March 2006, for the reasons discussed in the Memorandum Opinion issued this date;

IT IS HEREBY ORDERED that the following terms and/or phrases in U.S. Patent Nos. 4,811,075 (the "'075 patent"), 6,107,851 (the "'851 patent"), 6,229,366 (the "'366 patent"), 6,249,876 (the "'876 patent") are assigned the following meanings:

1. The term **"MOS transistor"** means "a metal oxide transistor."

2. The term **"substrate"** means "the physical material on which a transistor or microcircuit is fabricated."

3. The phrase **"a pair of laterally spaced pockets of semiconductor material of a second conductivity type within the substrate"** means "two laterally spaced pockets of semiconductor material of the opposite conductivity type from the substrate."

4. The phrase **"a surface adjoining layer of material of the first conductivity type on top of an intermediate portion of the extended drain region between the drain contact pocket and the surface adjoining positions"** is construed according to its plain meaning, and further construction by the Court is not required.

5. The phrase **"said top layer of material"** is construed according to its plain meaning when read in the
[*46] context of the claim, and further construction by the Court is not required.

6. The term **"reverse bias voltage"** means "a voltage applied across a rectifying junction with a polarity that provides a high-resistance path."

7. The phrase **"substrate region thereunder which forms a channel"** is construed according to its plain meaning when read in the context of the claim, and further construction by the Court is not required.

8. The term **"frequency jittering"** means "varying the switching frequency of a switch mode power supply about a target frequency in order to reduce electromagnetic interference."

9. The term "coupled" means that "two circuits are coupled when they are connected such that voltage, current or control signals pass from one to another."

10. The term **"primary voltage"** means a "base or initial voltage" and the term is not defined by reference to the source from which it may be generated.

11. The term **"secondary voltage"** means "a subsequent: or additional voltage."

12. The term **"combining"** means "adding together."

13. The term **"supplemental voltage"** means "a voltage in addition to the primary voltage."

14. The term **"soft**
[*47] **start circuit"** is a means-plus-function element. The functions of the various "soft start circuits" are construed in accordance with the plain meaning of the claims setting forth such soft start circuit functions. The corresponding structures related to the "soft start circuit" are shown in Figures 3, 6 and 9 of the '366 patent and described in the specification of the '366 patent at col. 6, ll. 7-17; col. 6, l. 35-col. 7, l. 18; col. 11, ll. 40-50 and col. 12, ll. 5-10.

15. The phrase **"frequency variation circuit"** means "a structure that provides the frequency variation signal."

16. The phrase **"frequency variation signal"** means "an internal signal that cyclically varies in magnitude during a fixed period of time and is used to modulate the frequency of the oscillation signal within a predetermined frequency range."

Joseph J. Farnan Jr.

UNITED STATES DISTRICT JUDGE